GRADE 11 Statistics and Probability

Student Learning Objective: Students will summarize, represent and interpret data.

ABOVE STANDARD

Students are working to solidify the following skills:	*Educator-recommended next-steps and Digital Library resources*
• Understand how to create box plots and use data to calculate the 5-number summary • Calculate the probability of multiple independent events and understand inclusion/exclusion principal • Determine the effect of the addition of an outlier to the center and spread of data • Given a situation, determine data distribution based on standard deviation	Instructional next-steps include, helping students to: • Display data in a box plot using real world scenarios and student-collected data. Digital Library Examples: Representing Data with Box Plots, Human Box and Whisker Plot • Use Venn diagrams and two-way tables to display data. Digital Library Example: Displaying Bivariate Categorical Data • Discuss how outliers affect measures of central tendency. Digital Library Example: Measures of Central Tendency

AT/NEAR STANDARD

Students are working to solidify the following skills:	*Educator-recommended next-steps and Digital Library resources*
• Select or construct a histogram based on given data • Given a graphical representation: determine the *y* value for a given *x;* interpret the meaning of the slope in context; understand a line of best fit • Determine the effect of additional data to the measures of center • Conceptual understanding of standard deviation, IQR, 5-number summary, and skew • Calculate multiple types of probability	Instructional next-steps include, helping students to: • Apply real-world scenarios to create histograms using class data. Digital Library Examples: Height Histogram; Comparing Data Sets in Jump Heights • Make connections and predictions using line of best fit. Digital Library Examples: Breaking Spaghetti; Cup Stacking • Discuss how additional data affects measures of central tendency. Digital Library Example: Measures of Central Tendency

BELOW STANDARD

Students are working to solidify the following skills:	*Educator-recommended next-steps and Digital Library resources*
• Given a set of data, select the corresponding data display • Given a set of data, construct a line plot • Represent data using displays on a real number line	Instructional next-steps include, helping students to: • Use real-world data to create a histogram. Digital Library Example: Height Histogram • Visualize data by using a real-life, physical representation to create a dot-plot. Digital Library Example: Living Dot Plot

Digital Library resources are meant to be used in conjunction with an educator's curriculum, and to serve as a jumping-off point for instruction. Educators are encouraged to consider their particular classroom context and culture when selecting resources, and to adapt the resources to best fit their students' needs.